

7. PELVIC ORGANS/WOMAN'S HEALTH

Sweeten beverages increases risk of Breast CA

European Journal of Nutrition pp 1–12|

Sugar-sweetened beverage consumption and incidence of breast cancer: the Seguimiento Universidad de Navarra (SUN) Project

- A. Romanos-Nanclares Estefania Toledo I. Gardeazabal J. J. Jiménez-Moleón
- M. A. Martínez-González

Purpose

Breast cancer (BC) incidence is increasing worldwide. Higher insulin resistance may potentially lead to an increased risk of BC. Sugar-sweetened beverages (SSB) are an acknowledged dietary factor that increases insulin resistance. However, the association between SSB and BC has not been widely explored. We evaluated the association between baseline consumption of SSB and the incidence of BC among relatively young women in a cohort of Spanish university graduates.

Methods

We evaluated 10,713 middle-aged, Spanish female university graduates (median age 33) from the Seguimiento Universidad de Navarra (SUN) cohort, initially free of BC. SSB consumption was collected at baseline using a validated 136-item semi-quantitative food-frequency questionnaire. Incidence of BC was confirmed by a trained oncologist using medical records. We fitted Cox regression models to assess the relationship between baseline categories of SSB consumption and the incidence of BC during follow-up. We stratified the analyses by menopausal status.

Results

During 106,189 person-years follow-up, 100 incident cases of BC were confirmed. Among postmenopausal women, regular consumption of SSB was associated with a significantly higher incidence of BC (HR 2.12; 95% CI 1.02, 4.41) in the fully adjusted model, compared to women who never or seldom consumed SSB. No association was found among premenopausal women (HR 1.16; 95% CI 0.66, 2.07).

Conclusions

Even though the number of cases was small, in this Mediterranean cohort, we observed a direct association between SSB consumption and BC risk among postmenopausal women. Nonetheless further larger longitudinal studies are needed to support this association.

Weight loss decreases risk of breast CA

Cancer Month 00, 2018

Original Article

Weight Loss and Breast Cancer Incidence in Postmenopausal Women

Rowan T. Chlebowski, MD, PhD

BACKGROUND: Although obesity is an established risk factor for postmenopausal breast cancer, the results of weight loss and breast cancer studies are inconsistent. Therefore, we evaluated associations between weight change and breast cancer risk in postmenopausal women in the Women's Health Initiative Observational Study.

METHODS: Postmenopausal women (n = 61,335) who had no prior breast cancer and a normal mammogram had body weight and height measured and body mass index (BMI) calculated at baseline and year 3. Weight change at year 3 was categorized as stable (<5%), loss (≥5%), or gain (≥5%) with further assessment of weight loss intentionality by self-report. Multivariable Cox proportional hazard regression models were used to evaluate relationships between weight change and subsequent breast cancer incidence.

RESULTS: During a mean follow-up of 11.4 years with 3061 incident breast cancers, women with weight loss (n = 8175) had a significantly lower risk of breast cancer compared with women whose weight remained stable (n = 41,139) (hazard ratio [HR], 0.88; 95% confidence interval [CI], 0.78-0.98; P = .02) with no interaction by BMI. Adjustment for mammography did not alter findings (HR, 0.88; 95% CI, 0.78-0.99) with no significant difference by weight loss intentionality. Weight gain (≥5%) (n = 12,021) was not associated with breast cancer risk (HR, 1.02; 95% CI, 0.93-1.11) but was associated with higher triple-negative breast cancer incidence (HR, 1.54; 95% CI, 1.16-2.05).

CONCLUSIONS: Postmenopausal women who lose weight have lower breast cancer risk than those with stable weight. These findings suggest that postmenopausal women who lose weight may reduce their breast cancer risk. Cancer 2018;000:00-00. © 2018

8. VISCERA

Heavy coffee consumptions reduce risk of pancreatitis

Digestive Diseases and Sciences November 2018, Volume 63, Issue 11, pp 3134–3140|

Heavy Coffee Consumption and Risk of Pancreatitis: A Systematic Review and Meta-Analysis

Karn Wijarnpreecha Panadeekarn Panjawatanan Omar Y. Mousa Wisit Cheungpasitporn
Surakit Pungpapong Patompong Ungprasert

Background/Objectives

Heavy consumption of coffee may have a protective effect against pancreatitis although results from previous studies were inconsistent. This meta-analysis was conducted with the aim to summarize all available data.

Methods

This meta-analysis included observational studies that compared the risk of pancreatitis between heavy coffee-drinkers and individuals who were not heavy coffee-drinkers. Pooled risk ratios (RRs) and 95% confidence interval (CI) were calculated using a random-effect, generic inverse variance method.

Results

Out of 219 retrieved articles, four studies with 351,137 participants met the eligibility criteria and were included in the analysis. The risk of pancreatitis among heavy coffee-drinkers was significantly lower than individuals who were not heavy coffee-drinkers with the pooled RR of 0.78 (95% CI 0.67–0.91). The statistical heterogeneity between the studies was insignificant ($I^2 = 0\%$).

Conclusions

This meta-analysis demonstrated a significantly decreased risk of pancreatitis among heavy coffee-drinkers. However, further investigations are still required to determine causality and potential clinical application.

Gut microbial and Fatty Liver

Emerging Role of the Gut Microbiome in Nonalcoholic Fatty Liver Disease: From Composition to Function

Suzanne R. Sharpton V. Ajmera Rohit Loomba

The gut microbiome, a diverse microbial community in the gastrointestinal tract, plays a pivotal role in the maintenance of health.

The gut microbiome metabolizes dietary and host-derived molecules to produce bioactive metabolites, which have a wide array of effects on host metabolism and immunity. ‘Dysbiosis’ of the gut microbiome, commonly considered as perturbation of microbiome diversity and composition, has been associated with intestinal and extra-intestinal diseases, including nonalcoholic fatty liver disease (NAFLD). A number of endogenous and exogenous factors, such as nutritional intake and xenobiotic exposure, can alter the gut microbiome. We will review the evolving methods for studying the gut microbiome and how these profiling techniques have been utilized to further our understanding of the gut microbial community composition and functional potential in the clinical spectrum of NAFLD.

We will highlight microbiome-host interactions that may contribute to the pathogenesis of NAFLD, with a primary focus on mechanisms related to the metabolic output of the gut microbiome. Finally, we will discuss potential therapeutic implications of the gut microbiome in NAFLD.

FX risk

Journal Summaries in Orthopedics

Discordant pattern of peripheral fractures in diabetes: A meta-analysis on the risk of wrist and ankle fractures

Osteoporosis International — Vilaca T, et al. | October 11, 2018

Researchers performed a systematic review and meta-analysis on the risk of ankle and wrist fractures in diabetes to gauge whether there is a clinical consequence for peripheral microarchitectural abnormalities. In diabetes, the risk of fractures is increased at the ankle and decreased at the wrist.

Experts observed the same pattern in obesity. In obesity and diabetes, bone microarchitectural features are different, but in both the diseases, epidemiology of peripheral fractures are similar suggesting the probability of microarchitecture not to be the major determinant of peripheral fractures in these populations.

13 B. TMJ/ORAL

Periodontal disease

Journal Summaries in Internal Medicine

Periodontal disease increases the risk for onset of systemic comorbidities in dental hospital attendees: An 18-year retrospective cohort study

Journal of Periodontology — Zhao D, et al. | October 10, 2018

In an 18-year retrospective cohort study, authors assessed if poor periodontal condition increases the risk for systemic comorbidities.

They included 488 randomly selected individual dental folders from 17,400 dental hospital attendees who were free of diabetes, cardiovascular disease, chronic obstructive pulmonary disease, cancer, stroke, cognitive impairment, hypertension and dyslipidemia. For the first time, it was noted that susceptibility to common systemic comorbidities, is to some extent, linked to periodontal disease. Findings suggested an independent association of bone level presented as bone loss/age to the comorbidity profiles in two multivariate models after adjusting age and gender.

This highlights that the greater number of comorbidities was exhibited by individuals with more bone resorption vs counterparts. Furthermore, worse periodontal conditions, according to 4 parameters employed, were demonstrated by those with onsets of more comorbidities.

Periodontal disease and Alzheimer's disease

J Clin Periodontol. 2018 Oct 5. doi: 10.1111/jcpe.13016.

Association between periodontitis and risk of Alzheimer's disease, mild cognitive impairment and subjective cognitive decline: A case-control study.

Holmer J¹, Eriksdotter M^{2,3}, Schultzberg M⁴, Pussinen PJ⁵, Buhlin K¹.

AIMS:

To test the hypothesis that periodontal disease contributes to increased risk of mild cognitive impairment (MCI), subjective cognitive decline (SCD) and Alzheimer's disease (AD).

MATERIALS AND METHODS:

This case-control study was conducted over a 3-year period in the municipality of Huddinge, Sweden. In total, 154 cases were consecutively enrolled from the Karolinska Memory Clinic at the Karolinska University Hospital and allotted to three diagnostic groups: AD, MCI and SCD, collectively referred to as "cases". Seventy-six cognitively healthy age- and gender-matched controls were randomly sampled through The Swedish Population Register. All cases and controls underwent clinical and radiographic oral examinations. Statistical analysis was based on logistic regression models adjusted for potential confounders.

RESULTS:

Poor oral health and marginal alveolar bone loss were more prevalent among cases than among controls. The cases group was associated with generalized marginal alveolar bone loss (odds ratio [OR] = 5.81; 95% confidence interval [CI] = 1.14-29.68), increased number of deep periodontal pockets (OR = 8.43; CI 4.00-17.76) and dental caries (OR = 3.36; CI 1.20-9.43).

CONCLUSION:

The results suggest that marginal periodontitis is associated with early cognitive impairment and Alzheimer's disease. However, the study design does not preclude noncausal explanations. This article is protected by copyright. All rights reserved.

13 C. AIRWAYS/SWALLOWING/SPEECH**Brain connectivity and sleep quality**

October 2018

Functional Connectivities in the Brain That Mediate the Association Between Depressive Problems and Sleep Quality

Wei Cheng, PhD¹; Edmund T. Rolls, DPhil, DSc^{2,3}; Hongtao Ruan, MSc⁴; et alJianfeng Feng, PhD^{1,2,4,5,6}

JAMA Psychiatry. 2018;75(10):1052-1061. doi:10.1001/jamapsychiatry.2018.1941

Importance Depression is associated with poor sleep quality. Understanding the neural connectivity that underlies both conditions and mediates the association between them is likely to lead to better-directed treatments for depression and associated sleep problems.

Objective To identify the brain areas that mediate the association of depressive symptoms with poor sleep quality and advance understanding of the differences in brain connectivity in depression.

Design, Setting, and Participants This study collected data from participants in the Human Connectome Project using the Adult Self-report of Depressive Problems portion of the Achenbach Adult Self-Report for Ages 18-59, a survey of self-reported sleep quality, and resting-state functional magnetic resonance imaging. Cross-validation of the sleep findings was conducted in 8718 participants from the UK Biobank.

Main Outcomes and Measures Correlations between functional connectivity, scores on the Adult Self-Report of Depressive Problems, and sleep quality.

Results A total of 1017 participants from the Human Connectome Project (of whom 546 [53.7%] were female; age range, 22 to 35 years) drawn from a general population in the United States were included. The Depressive Problems score was positively correlated with poor sleep quality ($r = 0.371$; $P < .001$). A total of 162 functional connectivity links involving areas associated with sleep, such as the precuneus, anterior cingulate cortex, and the lateral orbitofrontal cortex, were identified. Of these links, 39 were also associated with the Depressive Problems scores. The brain areas with increased functional connectivity associated with both sleep and Depressive Problems scores included the lateral orbitofrontal cortex, dorsolateral prefrontal cortex, anterior and posterior cingulate cortices, insula, parahippocampal gyrus, hippocampus, amygdala, temporal cortex, and precuneus. A mediation analysis showed that these functional connectivities underlie the association of the Depressive Problems score with poor sleep quality ($\beta = 0.0139$; $P < .001$).

Conclusions and Relevance The implication of these findings is that the increased functional connectivity between these brain regions provides a neural basis for the association between depression and poor sleep quality. An important finding was that the Depressive Problems scores in this general population were correlated with functional connectivities between areas, including the lateral orbitofrontal cortex, cingulate cortex, precuneus, angular gyrus, and temporal cortex. The findings have implications for the treatment of depression and poor sleep quality.

14. HEADACHES**Migraine and ASTHMA****Migraine Resource Center****Association between asthma and migraine - A cross-sectional study of over 110,000 adolescents**

The Clinical Respiratory Journal — Graif Y, et al. | July 17, 2018

Experts assessed the relationship between specialist-diagnosed asthma and migraine among adolescents. An awareness among clinicians regarding the potential risk posed by asthma and allergic rhinitis for migraine in adolescents should be reinforced. Migraine was highly suggested by a combined finding of these conditions and recurrent headache, justifying a different treatment approach from sinusitis.

Methods

- Authors retrospectively searched the electronic database of a recruitment center for all 17-year-old draftees during the years 1987-2010.
- Certified specialists made the diagnoses of asthma and migraine, and they compared the prevalence of migraine among draftees with and without asthma.
- They recorded the covariate data on socio-demographics and associated medical conditions.

Results

- Findings suggested that a total of 113,671 adolescents were available for analysis.
- As per data, among 4.0%, asthma was diagnosed and migraine among 1.9%.
- Results revealed that among adolescents with asthma, migraine was significantly more prevalent (174 of the 4,581 subjects [3.8%]) vs those without asthma (1,946 of the 109,090 [1.8%]) (OR=2.17 [95% CI 1.86-2.55; $P < 0.001$]).
- Among subjects with and without allergic rhinitis, rates of migraine were 6.3% and 1.7%, respectively (OR=4.04[95%CI 3.58-4.56; $P < 0.001$]).
- Multivariate analysis suggested a significant relationship between migraine and both asthma (OR 1.42 [95% CI 1.19-1.68]) and allergic rhinitis (OR 3.18 [95% CI 2.80-3.63]).
- Female gender, urban area of residence, recent immigration to Israel, having three or fewer siblings, and abnormal body mass index were the other factors significantly associated with migraine.

15. VESTIBULAR

Vit D

European Archives of Oto-Rhino-Laryngology pp 1–7|

Association of benign paroxysmal positional vertigo with vitamin D deficiency: a systematic review and meta-analysis

- Mohammed A. AlGarnihmad A. Mirza Awwadh A. Althobaiti Hanan H. Al-Nemari Lamees S. Bakhsh

Background and objective

Benign paroxysmal positional vertigo (BPPV) is an idiopathic recurrent inner ear illness that is caused most often by an imbalance in the metabolism of calcium carbonate crystals (otoconia) inside the semicircular canals, in which the otoconia begin to circulate freely after being dislodged from the basic structure. The underlying etiology of this imbalance has not yet been well established; however, a few recent articles have revealed that vitamin D level abnormality in these patients might play a role. Therefore, we conducted the current systematic review analysis to explore potential associations of vitamin D level with the occurrence as well as the recurrence of BPPV disease.

Methods

A comprehensive literature search was conducted using different databases to retrieve all of the articles that have evaluated possible associations, irrespective of the study design. Then, we reported different vitamin D3 levels from BPPV groups and control groups to estimate the standardized mean difference (SMD) between the BPPV and control groups. We also calculated the effect size of each study under the random effects statistical model.

Results

Of the 703 studies that we identified, only 37 studies were found to be potential for our analysis, and of these, only seven met our predetermined criteria. Two meta-analyses were conducted with respect to the occurrence and the recurrence of BPPV. When the BPPV cases were compared to the controls (free of BPPV disease), there was an insignificant reduction in vitamin D level among the diseased groups (SMD = -2.20; 95% CI -6.66 to 2.26). In contrast, when the recurrent BPPV groups were compared with the non-recurrent BPPV groups, the statistical analysis showed significantly lower level of vitamin D among the recurrence BPPV groups (SMD = -4.47; 95% CI -7.55 to -1.29).

Conclusion

Although a negative vitamin D imbalance has been reported among some BPPV patients, this review analysis failed to establish a relationship between the occurrence of BPPV and low vitamin D level. However, low vitamin D level was significantly evident among patients with recurrent episodes of BPPV.

16. CONCUSSIONS

Dementia and concussion

Journal Summaries in Internal Medicine

Association of mild traumatic brain injury with and without loss of consciousness with dementia in US military veterans

JAMA — Barnes DE, et al. | October 05, 2018

In this propensity-matched cohort study of more than 350,000 veterans, researchers investigated the connection between traumatic brain injury (TBI) severity, loss of consciousness (LOC), and risk of dementia diagnosis in veterans. Findings revealed that, even mild TBI without LOC was related to more than a two-fold increase in the risk of dementia diagnosis in this patient population.

Methods

- This investigation included all individuals with a diagnosis of TBI in the Veterans Health Administration health-care system from October 1, 2001, to September 30, 2014, and a propensity-matched comparison group.
- Exclusion criteria included patients with dementia at baseline.
- Researchers identified cases of TBI through the Comprehensive TBI Evaluation database, which is restricted to Iraq and Afghanistan veterans, and the National Patient Care Database, which includes veterans of all eras.
- The severity of each TBI was based on the most severe injury recorded.
- Using Department of Defense or Defense and Veterans Brain Injury Center criteria, TBI was classified as mild without LOC, mild with LOC, mild with LOC status unknown, or moderate or severe.
- Using *International Classification of Diseases, Ninth Revision* codes, researchers identified dementia diagnoses during follow-up and medical and psychiatric comorbidities in the 2 years prior to the index date.
- Dementia diagnosis in veterans who had experienced TBI with or without LOC, as well as control participants without TBI exposure, were the main outcomes and measures analyzed.

Results

- The examination included 178,779 participants with a diagnosis of TBI in the Veterans Health Administration health-care system and 178,779 individuals in a propensity-matched comparison group.
- They found that veterans had a mean (SD) age of nearly 49.5 (18.2) years at baseline; 33,250 (9.3%) were women and 259,136 (72.5%) were non-Hispanic white individuals.
- Minor variations were reported between veterans with and without TBI.
- They found that 4,698 veterans (2.6%) without TBI developed dementia vs 10,835 (6.1%) of those with TBI.
- Adjusted hazard ratios for dementia were 2.36 (95% CI, 2.10-2.66) for mild TBI without LOC, 2.51 (95% CI, 2.29-2.76) for mild TBI with LOC, 3.19 (95% CI, 3.05-3.33) for mild TBI with LOC status unknown, and 3.77 (95% CI, 3.63-3.91) for moderate to severe TBI after adjustment for demographics, and medical and psychiatric comorbidities.

Deep brain stimulation**Deep brain stimulation in five patients with severe disorders of consciousness**

Jean-Jacques Lemaire Thierry Gillart

<https://doi.org/10.1002/acn3.648>

Objective

The efficacy of deep brain stimulation in disorders of consciousness remains inconclusive. We investigated bilateral 30-Hz low-frequency stimulation designed to overdrive neuronal activity by dual pallido-thalamic targeting, using the Coma Recovery Scale Revised (CRS-R) to assess conscious behavior.

Methods

We conducted a prospective, single center, observational 11-month pilot study comprising four phases: baseline (2 months); surgery and titration (1 month); blind, random, crossover, 1.5-month ON and OFF periods; and unblinded, 5-month stimulation ON. Five adult patients were included: one unresponsive-wakefulness-syndrome male (traumatic brain injury); and four patients in a minimally conscious state, one male (traumatic brain injury) and three females (two hemorrhagic strokes and one traumatic brain injury). Primary outcome measures focused on CRS-R scores. Secondary outcome measures focused notably on baseline brain metabolism and variation in activity (stimulation ON – baseline) using normalized fluorodeoxyglucose positron emission tomography maps. Statistical analysis used random-effect models.

Results

The two male patients (one minimally conscious and one unresponsive wakefulness syndrome) showed improved mean CRS-R scores (stimulation ON vs. baseline), in auditory, visual and oromotor/verbal subscores, and visual subscores respectively. The metabolism of the medial cortices (low at baseline in all five patients) increased specifically in the two responders.

Interpretation

Our findings show there were robust but limited individual clinical benefits, mainly in visual and auditory processes. Overall modifications seem linked to the modulation of thalamo-cortico-basal and tegmental loops activating default mode network cortices. Specifically, in the two responders there was an increase in medial cortex activity related to internal awareness.

28. REPLACEMENTS**Mortality impact for underweight****The association of under-weight and obesity with mortality after hip arthroplasty**

Seung Hee Woo Dong Heon Cha Eun-Cheol Park Seung Ju Kim

Age and Ageing, afy161, <https://doi.org/10.1093/ageing/afy161>**Background**

although many studies have demonstrated the association between body mass index (BMI) and many diseases, there is little evidence of postoperative mortality after hip arthroplasty. The aim of this study was to evaluate the association between BMI and mortality after hip arthroplasty in the older population.

Methods

a total of 3,627 older patients who underwent hip arthroplasty from 2010 to 2013 were included. We used Cox regression analysis to evaluate the association between BMI and mortality after hip arthroplasty. The hazard ratios (HRs) was calculated from 30 days, 31–365 days, and from the first day of surgery to the day of death during the study.

Results

under-weight (BMI under 18.5 kg/m²) is significantly associated with increased mortality (HR:1.423; 95% Confidence Interval (CI): 1.023–1.981) after hip arthroplasty compared to the normal range. However, in the short-term mortality within 30 days after surgery, both under-weight (HR: 2.368; 95%CI: 1.130–4.960) and obesity (25–29.9 kg/m², HR: 2.023; 95%CI: 1.008–4.059) are associated with increased mortality.

Conclusion

our study suggested that under-weight is associated with increased risk of mortality after hip arthroplasty. Further, in a short-term outcome, obesity appear to be associated with increased mortality after hip arthroplasty within 30 days.

Medication does not help osteoporosis

Journal Summaries in Orthopedics

Effects of anti-osteoporosis medications on total hip arthroplasty risks in osteoporotic patients with hip osteoarthritis in Taiwan: A nationwide cohort study

Archives of Osteoporosis — Hung CC, et al. | October 11, 2018

Authors evaluated the correlation between the use of anti-osteoporosis medications (AOMs) and the risk of undergoing total hip arthroplasty (THA) in patients with hip osteoarthritis (OA).

Findings suggested that there is no association between the use of AOMs and decreased risk of THA in patients with hip OA. Significant change was not demonstrated by the bisphosphonates or non-bisphosphonates users when compared to non-users in terms of risk of undergoing THA. They noted 75.62, 76.84, and 67.39 years to be the mean age of bisphosphonates users, non-bisphosphonates users, and non-users, respectively.

Total hips

Predicting Adverse Outcomes After Total Hip Arthroplasty: A Comparison of Demographics, the American Society of Anesthesiologists class, the Modified Charlson Comorbidity Index, and the Modified Frailty Index

Ondeck, Nathaniel T., BS; Bohl, Daniel D., MD, MPH; Bovonratwet, Patawut, BS; Anandasivam, Nidharshan S., BS; Cui, Jonathan J., BS; McLynn, Ryan P., BS; Grauer, Jonathan N., MD

JAAOS - Journal of the American Academy of Orthopaedic Surgeons: October 15, 2018 - Volume 26 - Issue 20 - p 735–743
doi: 10.5435/JAAOS-D-17-00009

Introduction: No known study has compared the predictive power of the American Society of Anesthesiologists (ASA) class, modified Charlson Comorbidity Index, modified Frailty Index, and demographic characteristics for general health complications after total hip arthroplasty (THA).

Methods: Comorbidity indices and demographics from National Surgical Quality Improvement Program THA patients were evaluated for discriminative ability in predicting adverse outcomes using the area under the curve analysis from the receiver operating characteristic curves.

Perioperative outcomes included any adverse event, severe adverse events, minor adverse events, extended hospital stay, and discharge to higher-level care.

Results: In total, 64,792 THA patients were identified. The most predictive comorbidity index was ASA, and demographic factor was age. Of these, age had the greatest discriminative ability for four of the five adverse outcomes.

Conclusion: For THA, easily obtained patient ASA and age are more predictive of perioperative adverse outcomes than the more complex and numerically tabulated modified Charlson Comorbidity Index and modified Frailty Index.

56. ATHLETICS

Bone changes in adolescents

Archives of Osteoporosis December 2018, 13:106|

Longitudinal determinants of 12-month changes on bone health in adolescent male athletes

Esther Ubago-Guisado Dimitris Vlachopoulos Ioannis G. Fatouros Chariklia K. Deli

Diamanda Leontsini Luis A. Moreno Daniel Courteix Luis Gracia-Marco

Summary

We identified the determinants of 12-month changes of areal bone mineral density (aBMD), hip geometry and trabecular bone score (TBS) in adolescent male athletes. Changes in region-specific lean mass and the type of sport are the most consistent determinants in this population.

Purpose

This study aims to identify the determinants of 12-month changes of areal bone mineral density (aBMD), hip geometry and trabecular bone score (TBS) in adolescent male athletes.

Methods

The sample was 104 adolescent males aged 12–14 years at baseline that were followed over 12 months: 39 swimmers, 37 footballers (or soccer players) and 28 cyclists. Dual-energy X-ray absorptiometry measured aBMD at the whole body, lumbar spine and dual hip. Hip geometry estimates at the femoral neck were measured using hip structural analysis. Lumbar spine texture was measured by TBS.

Results

Multivariate regression models significantly explained 38–60% of the variance in the aBMD changes, 36–62% in the hip geometry estimates changes and 45% in the TBS changes. Δ region-specific lean mass was the most consistent predictor of changes in aBMD outcomes ($\beta = 0.591$ to 0.696), followed by cycling participation ($\beta = -0.233$ to -0.262), swimming participation ($\beta = -0.315$ to -0.336) and Δ MVPA ($\beta = 0.165$). Cycling participation was the most consistent predictor of changes in hip geometry estimates ($\beta = -0.174$ to -0.268), followed by Δ region-specific lean mass ($\beta = 0.587$) and Δ cardiorespiratory fitness ($\beta = 0.253$). Finally, cycling and swimming participation ($\beta = -0.347$ to -0.453), Δ region-specific lean mass ($\beta = 0.848$) and Δ stature ($\beta = 0.720$) were predictors of change in TBS.

Conclusions

Changes in region-specific lean mass and the type of sport are the most consistent determinants of 12-month changes in aBMD, hip geometry estimates and TBS in adolescent male athletes.

57. GAIT**Walking pace improved mortality****Walking Pace Is Associated with Lower Risk of All-Cause and Cause-Specific Mortality**

Celis-Morales, Carlos A.^{1‡}; Gray, Stuart^{1‡}; Petermann, Fanny^{1‡}; Iliodromiti, Stamatina¹; Welsh, Paul¹; Lyall, Donald M.²; Anderson, Jana²; Pellicori, Pierpaolo³; Mackay, Daniel F.²; Pell, Jill P.^{2*}; Sattar, Naveed^{1*}; Gill, Jason M. R.^{1*}

Medicine & Science in Sports & Exercise: October 9, 2018 - Volume Publish Ahead of Print - Issue - p

doi: 10.1249/MSS.0000000000001795

Purpose Walking pace is associated with all-cause and cardiovascular disease (CVD) mortality. Whether this association extends to other health outcomes and whether it is independent of total amount of time walked are currently unknown. Therefore, the aim of this study was to investigate whether usual walking pace is associated with a range of health outcomes.

Methods 318,185 UK Biobank participants (54% women) aged 40-69 years were included. Walking pace and total walking time were self-reported. The outcomes comprised: all-cause mortality as well as incidence and mortality from cardiovascular disease (CVD), respiratory disease and cancer. The associations were investigated using Cox proportional hazard models. **Results** Over a mean of 5.0 years [ranging from 3.3 to 7.8], 5,890 participants died, 18,568 developed CVD, 5,430 respiratory disease and 19,234 cancer. In a fully adjusted model, compared to slow pace walkers, men and women, respectively, with a brisk pace having lower risk of mortality from all-causes (HR 0.79 [95% CI: 0.69; 0.90] and 0.73 [95% CI: 0.62; 0.85]), CVD (HR 0.62 [0.50; 0.76] and 0.80 [0.73; 0.88]), respiratory disease (HR 0.58 [95% CI 0.43; 0.78] and 0.66 [0.57; 0.77]), COPD (HR 0.26 [95% 0.12; 0.56] and 0.28 [0.16; 0.49]). No associations were found for all-cause cancer, colorectal, breast cancer. However, brisk walking was associated with a higher risk of prostate cancer.

Conclusions Walking pace is associated with lower risk of a wide range of important health conditions, independently of overall time spent walking.